ED_0005458_00004721

United States Environmental Protection Agency
Washington, DC 20460

# Work Assignment

Work Assignment Number: 1-03 Amendment 2

[ ] Original [X] Amendment Number:

Contract Number: EP-C-07-028

Contract Period 1 Option Period Number 1

Title of Work Assignment: Comprehensive Gasoline Light Duty Exhaust Fuel Effects Test Program to Cover Multiple Fuel Properties and Two Ambient Test Temperatures, Phase 3

Contractor: Southwest Research Institute

Specify Section and Paragraph of Contract SOW

Purpose: [] Work Assignment Initiation [] Work Assignment Close-Out
[X] Work Assignment Amendment [] Incremental Funding
[] Work Plan Approval

Periods of Performance
From: Effective Date To: June 27, 2009

Comments:

[] Superfund **Accounting and Appropriations Data** [X] Non-Superfund

| Lin | DC (Max 8) | Budget/FY | Appropriation Code (Max | Budget Org/Code (Max 7) | Program Element (Max 9) | Object Class (Max 4) | Amount (Dollars) | (Cents) | Site/Project (Max 8) | Cost Org/Code (Max 7) |
|---|---|---|---|---|---|---|---|---|---|---|
| 1 | | | | | | | | | | |
| 2 | | | | | | | | | | |
| 3 | | | | | | | | | | |
| 4 | | | | | | | | | | |
| 5 | | | | | | | | | | |

**Authorized Work Assignment Ceiling**

| | Cost/Fee | LOE |
|---|---|---|
| Contract Period: | | |
| This Action | | |
| Total | | |

Ex. 4 - CBI

**Work Plan / Cost Estimate Approvals**

| | Cost/Fee: | LOE: |
|---|---|---|
| Contractor WP Dated : | | |
| Cumulative Approved: | | |

Work Assignment Manager Constance Hart
(Signature) 3/9/2009 (Date)
Branch/Mail ASD
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Project Officer Name Christine M Brunner
(Signature) 3/9/09 (Date)
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Other Agency Official Name
(Signature) (Date)
Branch/Mail Code
Phone Number
Fax Number

Contracting Official Name Tammy A Thomas
(Signature) 3/9/09 (Date)
Branch/Mail Code CPOD
Phone Number 513/487-2030
Fax Number 513/487-2109

Contractor Acknowledgement of Receipt and Approval of Work Plan *(Signature and Title)* Date

EPA Form 1900-69 (Rev. 07-95)

**Performance Work Statement**

| | |
|---|---|
| Contract EP-C-07-028 | Work Assignment Number 1-03, Amendment 2 |
| Issuing Office | Environmental Protection Agency<br>2000 Traverwood Drive<br>Ann Arbor, MI 48105-2498 |
| Contractor | Southwest Research Institute<br>6220 Culebra Rd.<br>San Antonio, TX 78228-0510 |
| Title | Comprehensive Gasoline Light Duty Exhaust Fuel Effects Test Program to Cover Multiple Fuel Properties and Two Ambient Test Temperatures, Phase 3 |
| Estimated LOE | 98 hours |

This amendment modifies the Fuel Change and Test Execution Sequence in Table 6.1-1. Specifically, steps 3, 7 and 9 are revised.

**Table 6.1-1. Fuel Change and Test Execution Sequence**

| Step | Description |
|---|---|
| 1 | Drain vehicle fuel completely via fuel rail whenever possible. |
| 2 | Turn vehicle ignition to RUN position for 30 seconds to allow controls to allow fuel level reading to stabilize. Confirm the return of fuel gauge reading to zero. |
| 3 | Turn ignition off. Fill fuel tank to 40% with next test fuel in sequence. Fill-up fuel temperature must be less than 50°F. |
| 4 | Start vehicle and execute catalyst sulfur removal procedure described in Appendix C of CRC E-60 Program report. Engine oil temperature in the sump will be measured and recorded during the sulfur removal cycle. |
| 5 | Perform four vehicle coast downs from 70 to 30 mph, with the last two measured. If the individual run fails to meet the repeatability criteria established in Phases 1 and 2 of the program, the vehicle will be checked for any obvious and gross source of change in the vehicle's mechanical friction. |
| 6 | Drain fuel and refill to 40% with test fuel. Fill-up fuel must be less than 50°F. |
| 7* | Reset adaptive fuel memory for specific vehicles and/or fuel change combinations if instructed to do so by the EPA WAM. |
| 8 | Soak vehicle for at least 12 hours to allow fuel temperature to stabilize to the test temperature. |
| 9 | Move vehicle to test area without starting engine. Start vehicle and perform 2-phase (bags 1 and 2) LA92 cycles until short and long term fuel trims in all cells have stabilized. (The criteria for considering fuel trims to be stable will be provided by the EPA. Until those criteria have been provided, perform three 2-phase LA92 cycles to stabilize fuel trims. Shut down the engine for max. 5 minutes to simulate recording of fuel trims). Allow vehicle to idle in park for two minutes before engine shut-down. |
| 10 | Move vehicle to soak area without starting the engine. |
| 11 | Park vehicle in soak area at proper temperature (75 °F) for 12-36 hours. During the soak period, maintain the nominal charge of the vehicle's battery using an appropriate charging device. |
| 12 | Move vehicle to test area without starting engine. |
| 13 | Perform LA92 cycle emissions test. |
| 14 | Move vehicle to soak area without starting the engine. |
| 15 | Park vehicle in soak area of proper temperature for 12-36 hours. During the soak period, maintain the nominal charge of the vehicle's battery using an appropriate charging device. |
| 16 | Move vehicle to test area without starting the engine. |
| 17 | Perform LA92 emissions test. |
| 18 | Determine whether third replicate is necessary, based on data variability criteria (see Table 6.1-2). |
| 19 | If a third replicate is required, repeat steps 13, 14, 15 and 16. |
| 20 | If third replicate is not required, return to step 1 and proceed with next fuel in test sequence. |